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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/658,134	09/08/2000	Tae In Yoon	HI-014	3539

34610 7590 03/20/2003

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EXAMINER
GAUTHIER, GERALD

ART UNIT	PAPER NUMBER
2645	8

DATE MAILED: 03/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/658,134	YOON, TAE IN	
	Examiner	Art Unit	
	Gerald Gauthier	2645	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16,19 and 25-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16,19 and 25-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 32 and 34** are rejected under 35 U.S.C. 102(b) as being anticipated by Matern et al. (US 5,592,473).

Regarding **claim 32**, Matern discloses a private branch exchange system (column 1, lines 11-14), (which reads on claimed "a voice mail service for a private switching system"), comprising:

means (14 on FIG. 1) setting a subscriber's message (column 11, line 62 "voice mail messages" in memory (column 11, lines 58-65) [The voice mail messages are recorded in the switch memory];

means (12 on FIG. 1) determining a communication state (column 14, line 37 "hook-flashing signal") of the subscriber in response to an incoming communication (column 14, lines 29-40) [The control means determine the extension number supply by the caller to connect the call];

means (14 on FIG. 6) transferring the incoming communication to a system matching section(column 14, lines 29-44) [The switching means transmitted the information of a call from a caller to connect the incoming call];

means (30 on FIG. 4) storing the subscriber's message (column 12, line 11 "voice mail") in the system matching section (column 12, lines 11-19) [The voice guide information transmitted with the message are stored in the primary storage device and the compressed voice data is stored in a digital secondary storage];

means (14 on FIG. 1) providing guide service (column 7, line 23 "special user features") to a control section (column 12, lines 37-42) [The switching system provides special features to the user];

means (14 on FIG. 1) accessing data of the subscriber in the memory by the control section (column 10, lines 20-29) [The microprocessor accesses the storage means to store the data values];

means (12 on FIG. 4) providing the data and a control signal (column 10, line 31 "tone generating process") to a processor (column 10, lines 29-36) [The microprocessor is programmed to implement an efficient tone generating process]; and

outputting the subscriber's message (column 15, lines 22-28) [The control means transmits the message to the subscriber].

Regarding **claim 34**, Matern discloses an interface section to interface with the private switching system (column 14, lines 29-44);

a buffer to store data transmitted to and received from the private switching system in a prescribed protocol (column 12, lines 11-19); and

a memory to store call-related messages and data transmitted or received between the private switching system and the control circuit (column 7, lines 9-26).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. **Claims 1, 4-5, 13, 15, 25 and 27-28** are rejected under 35 U.S.C. 103(a) as being unpatentable over Matern in view of Schouhamer Immink et al. (US 4,593,395).

Regarding **claim 1**, Matern discloses a private branch exchange system (column 1, lines 11-14), (which reads on claimed "a voice mail service system for a private switching system"), comprising:

a system matching circuit (14 on FIG. 6) configured to couple to a private switching system (10 on FIG. 1), so as to interface all information in relation to a call (column 14, line 37 "hook-flash") and a management of the call (column 14, lines 29-44) [The switching means transmitted the information of a call from a caller to connect the incoming call];

a voice data memory (30 on FIG. 4) to provide a voice mail function (column 12, line 11 "voice mail"), and to store voice guide information (column 12, line 13 "storage means") in an address sector (column 12, lines 15 "dedicated voice time slots") of a corresponding channel (column 12, lines 11-19) [The voice guide information transmitted with the message are stored in the primary storage device and the compressed voice data is stored in a digital secondary storage];

a voice and signal processor (50 on FIG. 6) to store voice data (column 10, line 20 "data") of the extension subscriber in the voice data memory and retrieve it so that the voice data can be transmitted (column 10, lines 20-29) [The microprocessor accesses and controls the storage means to store the data values];

a communication controller (12 on FIG. 4) to manage a state of each channel matching (column 9, line 14 "a desired time slot") with the private switching system (column 9, lines 9-15) [The control means cause data to be connected to a desired time slot]; and

a control circuit (12 on FIG. 4) to match with the private switching system to control an operation for maintaining the voice mail function (column 7, lines 9-26) [The control means is able to control the operation of the PBX].

Matern fails to disclose a process channel errors.

However, Schouhamer teaches a process channel errors, and maintain and repair the channel (column 6, lines 4-30).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to use the process channel errors of Schouhammer in the invention of Matern.

The modification of the invention would offer the capability of a process channel errors such as the system would translate the correct channel word.

Regarding **claim 4**, Matern discloses an interface section to interface with the private switching system (54 on FIG. 6);

a buffer to store data transmitted to and received from the private switching system in a prescribed protocol (62 on FIG. 6); and

a memory to store call-related messages and data transmitted or received between the private switching system and the control circuit (64 on FIG.6).

Regarding **claim 5**, Matern discloses the voice data memory has a prescribed storage capacity, which is expandable (column 12, lines 4-19).

Regarding **claim 13**, Matern discloses the voice memory provides the voice mail to each extension subscriber of the private switching system and stores voice guide information of the extension subscriber, and wherein the voice and signal processor stores voice data of the extension subscriber to transmit to an incoming caller (column 5, lines 2-15).

Regarding **claim 15**, Matern discloses the private switching system is a system of higher rank than the voice mail system (column 6, lines 29-37).

Regarding **claim 25**, Matern discloses a private branch exchange system (column 1, lines 11-14), (which reads on claimed "a private switching system"), comprising:

means (14 on FIG. 6) coupling call information (column 14, line 37 "hook-flash signal") and management of call information (column 14, line 40 "incoming call") to a switching system (column 14, lines 29-44) [The switching means transmitted the information of a call from a caller to connect the incoming call];

means (30 on FIG. 4) storing voice mail information (column 12, line 11 "voice mail"), and voice guide information (column 12, line 13 "storage means") in a memory (column 12, lines 11-19) [The voice guide information transmitted with the message are stored in the primary storage device and the compressed voice data is stored in a digital secondary storage];

means (30 on FIG. 1) storing data relating to a subscriber (column 7, line 23 "special user") in the memory (column 7, lines 19-26) [The storage means provides special features to the user];

means (14 on FIG. 1) retrieving data relating to the subscriber and transmitting the retrieve data (column 10, lines 20-29) [The microprocessor accesses and controls the storage means to store the data values];

means (12 on FIG. 4) managing a state of each channel matching (column 9, line 14 "a desired time slot") with the switching system (column 9, lines 9-15) [The control means cause data to be connected to a desired time slot]; and

means controlling and maintaining operation between the switching system and the voice mail service (column 7, lines 9-26) [The control means is able to control the operation of the PBX and the voice mail service].

Matern fails to disclose means processing channel errors.

However, Schouhamer teaches means process channel errors, and maintaining and repairing the channel (column 6, lines 4-30).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to use means processing channel errors of Schouhammer in the invention of Matern.

The modification of the invention would offer the capability of means processing channel errors such as the system would translate the correct channel word.

Regarding **claim 27**, Matern discloses the memory is a common memory (column 12, lines 4-19).

Regarding **claim 28**, Matern discloses the voice data memory is configured to be expanded by a unit of memory bank (column 12, lines 4-19).

5. **Claims 2-3, 12, 14 and 33** are rejected under 35 U.S.C. 103(a) as being unpatentable over Matern in view of Schouhamer and in further view of Hersh et al. (US 6,205,206).

Regarding **claim 2**, Matern and Schouhamer as applied to **claim 1** above differ from **claim 2** in that it fails to disclose the voice mail service system is a line card.

However, Hersh teaches the voice mail service system is a line card, configured to couple to the private switching system (column 2, lines 45-53).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to use the voice mail service system is a line card of Hersh in the invention of Matern and Schouhamer.

The modification of the invention would offer the capability of using the voice mail service system is a line card such as the system would have an integrating voicemail.

Regarding **claim 3**, Matern and Schouhamer as applied to **claim 2** above differ from **claim 3** in that it fails to disclose the line card accommodates a prescribed number of extension subscribers.

However, Hersh teaches the line card accommodates a prescribed number of extension subscribers, and wherein an increase in a number of line cards can increase a number of extension subscribers capable of being served with the voice mail service (column 6, lines 41-50).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to use the line card accommodating a prescribed number of extension subscribers of Hersh in the invention of Matern and Schouhamer.

The modification of the invention would offer the capability of using the voice mail service system is a line card such as the system would have an integrating voicemail.

Regarding **claim 12**, Matern and Schouhamer as applied to **claim 1** above differ from **claim 12** in that it fails to disclose a DTMF processor, a high speed RAM, a buffer, a dual port RAM and an interface circuit.

However, Hersh discloses a Dual Tone Multi-Frequency (DTMF) processor to process and analyze DTMF signals received from a terminal of the extension subscriber or a caller side terminal (column 5, line 65 to column 6, line 40);

a high speed RAM to store an algorithm for an operation of the DTMF processor (column 3, lines 30-35);

a buffer to temporarily store analyzed DTMF signals (column 3, lines 30-35);

a dual port RAM to prevent a collision between the analyzed DTMF signals and the DTMF signals (column 3, lines 30-35); and

an interface circuit coupled to the DTMF processor section and the dual port RAM, to arbitrate and control the occupation of a system interface bus (column 5, line 65 to column 6, line 40).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to use the DTMF processor and the PCM highway of LaRocca in the invention of Matern and Schouhamer.

The modification of the invention would offer the capability of using the vocoder and the PCM highway such as the system would use less memory.

Regarding **claim 14**, Matern discloses the connection to the private switching system is over a parallel bus (54 on FIG. 6).

Regarding **claim 33**, Matern discloses the connection to the private switching system is over a serial bus (column 6, lines 29-37).

6. **Claims 6, 7, 9, 11, 16 and 29-30** are rejected under 35 U.S.C. 103(a) as being unpatentable over Matern in view of Schouhamer and in further view of LaRocca (US 6,069,888).

Regarding **claims 6 and 29**, Matern and Schouhamer as applied to **claim 1** above differs from **claims 6 and 29** in that it fails to disclose a vocoder, a first high speed RAM, a first buffer, a first dual port RAM and a first interface circuit.

However, LaRocca teaches a vocoder coupled to the private switching system through a PCM highway and a system interface bus, configured to compress and modulate PCM voice signals (column 3, lines 49-58);

a first high speed RAM to store an algorithm for a compression-modulation and a demodulation of the PCM voice signals by the vocoder (column 4, lines 25-37);

a first buffer to store the PCM voice signal compressed and modulated by the vocoder and the PCM voice signal outputted (column 4, lines 25-37);

a first dual port RAM to maintain a smooth transmission and a smooth reception of the compressed and modulated PCM voice signal, to be stored in the voice data memory and the PCM voice signal outputted (column 4, lines 25-37); and

a first interface circuit coupled to the vocoder and the first dual port RAM, so as to arbitrate and control occupations of system interface bus by the vocoder and the first dual port RAM (column 4, lines 38-47).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to use the vocoder and the PCM highway of LaRocca in the invention of Matern.

The modification of the invention would offer the capability of using the vocoder and the PCM highway such as the system would use less memory.

Regarding **claims 7 and 30**, Matern, Schouhamer and LaRocca as applied to **claims 6 and 29** above differ from **claims 7 and 30** in that it fails to disclose a DTMF, a second high speed RAM, a second buffer, a second dual port RAM and a second interface circuit.

However, LaRocca teaches a Dual Tone Multi-Frequency (DTMF) processor to process and analyze DTMF signals received from a terminal of the extension subscriber or a caller side terminal (column 5, line 65 to column 6, line 40);

a second high speed RAM to store an algorithm for an operation of the DTMF processor (column 3, lines 30-35);

a second buffer to temporarily store analyzed DTMF signals (column 5, line 65 to column 6, line 40);

a second dual port RAM to prevent a collision between the analyzed DTMF signals and the DTMF signals (column 3, lines 30-35); and

a second interface circuit coupled to the DTMF processor section and the second dual port RAM, to arbitrate and control the occupation of a system interface bus (column 5, line 65 to column 6, line 40).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to use the vocoder and the PCM highway of LaRocca in the invention.

The modification of the invention would offer the capability of using the vocoder and the PCM highway such as the system would use less memory.

Regarding **claims 9 and 11**, Matern, Schouhamer and LaRocca as applied to **claims 6 and 7** above differ from **claims 9 and 11** in that it fails to disclose a data transmission/reception is carried out through the PCM highway.

However, LaRocca teaches data transmission/reception between the vocoder and the DTMF processor is carried out through the PCM highway, and is controlled by the control circuit (column 3, lines 49-58).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to use a data transmission/reception is carried out through the PCM highway of LaRocca in the invention.

The modification of the invention would offer the capability of using the vocoder and the PCM highway such as the system would use less memory.

Regarding **claim 16**, Matern, Schouhamer and LaRocca as applied to **claim 6** above differ from **claim 16** in that it fails to disclose the vocoder is coupled to the private switching network over a PCM highway.

However, LaRocca teaches the vocoder is coupled to the private switching network over a PCM highway and a system interface bus, and wherein the PCM voice signals are from an extension subscriber and are received over the PCM highway from the private switching system and are arranged for a recording in order to provide the voice mail service, the vocoder demodulating the compressed and modulated PCM voice signals to transmit the PCM voice signals to a caller side having applied an incoming call (column 3, lines 49-58).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to use the vocoder is coupled to the private switching network over a PCM highway of LaRocca in the invention.

The modification of the invention would offer the capability of using the vocoder and the PCM highway such as the system would use less memory.

7. **Claims 8, 10 and 31** are rejected under 35 U.S.C. 103(a) as being unpatentable over Matern in view of Schouhamer, in view of LaRocca and in further view Hersh.

Regarding **claims 8, 10 and 31**, Matern, Schouhamer and LaRocca as applied to **claims 6 and 7** above differ from **claims 8 and 10** in that it fails to disclose the first and the second dual port RAMs respectively comprise banks of memory.

However, Hersh discloses the first and the second dual port RAMs respectively comprise banks of memory, each of which store voice data to provide the voice mail service and a registration for the voice mail service (column 3, lines 37-66).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to use the first and the second dual port RAMs respectively comprise banks of memory of Hersh in the invention of Matern, Schouhamer and LaRocca.

The modification of the invention would offer the capability of using the vocoder and the PCM highway such as the system would use less memory.

8. **Claims 19 and 26** are rejected under 35 U.S.C. 103(a) as being unpatentable over Matern in view of Schouhamer, in view of Brunson (US 5,329,579).

Regarding **claims 19 and 26**, Matern and Schouhamer as applied to **claim 1** above differ from **claims 19 and 26** in that it fails to disclose the voice and signal processor compresses the voice data.

However, Brunson teaches the voice and signal processor compresses the voice data prior to it being stored, and decompresses the compressed voice data prior to it being transmitted (column 8, lines 34-42).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to use the voice and signal processor compresses the voice data of Brunson in the invention of Matern and Schouhamer.

The modification of the invention would offer the capability of the voice and signal processor compresses the voice data such as the system would use less memory.

Response to Arguments

9. Applicant's arguments with respect to **claims 1-16 and 19** have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gerald Gauthier whose telephone number is (703) 305-0981. The examiner can normally be reached on 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fan Tsang can be reached on (703) 305-4895. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4750.

Gerald Gauthier
g.g.
March 12, 2003

FAN TSANG
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